# Prediction Mechanism for Subroutine Returns
## in Binary Translation Sub-Systems of Computers

Abstract of the Disclosure

A sequence of input language (IL) instructions of a guest system is converted, for example by binary translation, into a corresponding sequence of output language (OL) instructions of a host system, which executes the OL instructions. In order to determine the return address after any IL call to a subroutine at a target entry address P, the corresponding OL return address is stored in an array at a location determined by an index calculated as a function of P. After completion of execution of the OL translation of the IL subroutine, execution is transferred to the address stored in the array at the location where the OL return address was previously stored. A *confirm* instruction block is included in each OL call site to determine whether the transfer was to the correct or incorrect call site, and a back-up routine is included to handle the cases of incorrect call sites.